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ABSTRACT

GAIN (Getting Assistance in Nursing) is a federally-funded program designed to recruit and retain high-risk nursing students. One aspect of the GAIN program is a three-credit developmental course to prepare educationally and economically disadvantaged students for required nursing courses. The course, "Success in Nursing," consists of two classroom lecture hours and 2 hours of group laboratory activity each week for one semester. Focusing on academic and self-improvement, the course offers instruction in study skills, reading and comprehension skills, self-actualization, and critical thinking. The group laboratory hours emphasize classroom participation rather than grades. During the fall and spring semesters of 1987 and 1988, 62 students were enrolled in the "Success in Nursing" course. A battery of four tests was administered the first and last weeks of each semester to determine any changes in reading and math skills, locus of control, and self-acceptance during the course. The tests showed that a majority of students experienced improvement in their reading and math abilities, and an increased self-acceptance and internal locus of control. (WJT)

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"SUCCESS IN NURSING": A PRIMARY INTERVENTION COURSE

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TITLE

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ABSTRACT

Academically disadvantaged nursing students, are being targeted by a federally funded program to participate in an ongoing freshman developmental course. The course, designed to recruit and retain greater numbers of nursing students, is entitled, "Success In Nursing." It emphasizes both academic and self-improvement skills. The students are administered pre and post course measurements to assess their improvement.

Statistically significant results indicate improved reading and mathematics abilities as well as increased self-acceptance and internal locus of control. Findings imply that a developmental course in a nursing program can provide realistic opportunity for disadvantaged students without compromising curriculum quality.

"SUCCESS IN NURSING": A PRIMARY INTERVENTION COURSE

The nurse shortage coupled with the shrinking enrollment in nursing schools, has made nurse educators more cognizant than ever before of the need for innovative recruitment and effective retention. Attracting top students is becoming increasingly difficult as competition with other professions increases. In their efforts to remain viable, many nursing schools are focusing on the disadvantaged, high-risk student population. 1,2,3

The challenge created by this population is to insure student success and progress in nursing programs without lowering entrance standards or compromising educational quality. 4 Remediation seems to be the essential component whereby this can be accomplished. 5,6 It was reported by Rosenfeld, (7,8) that approximately one-third of the 1473 schools of nursing surveyed, had remedial courses available in areas such as writing, and basic science. Slightly over half had remedial/developmental courses in math, reading, and study skills.

G.A.I.N. (Getting Assistance in Nursing) is a program designed specifically to recruit and retain nursing students who are educationally, economically, and/or socioculturally disadvantaged, frequently termed, "At Risk". By offering a developmental program to prepare disadvantaged students prior to their admission to the required nursing courses, GAIN has made nursing a realistic choice for students who otherwise could not have qualified. Once in the program, tutorial assistance and counseling enhance their success, as they compete with their

counterparts who are better prepared. This article will focus on one aspect of the GAIN program, the ongoing developmental course which is open to any student who is at risk of failing. Student improvement is continually measured and the most current findings will be discussed.

COURSE DESIGN

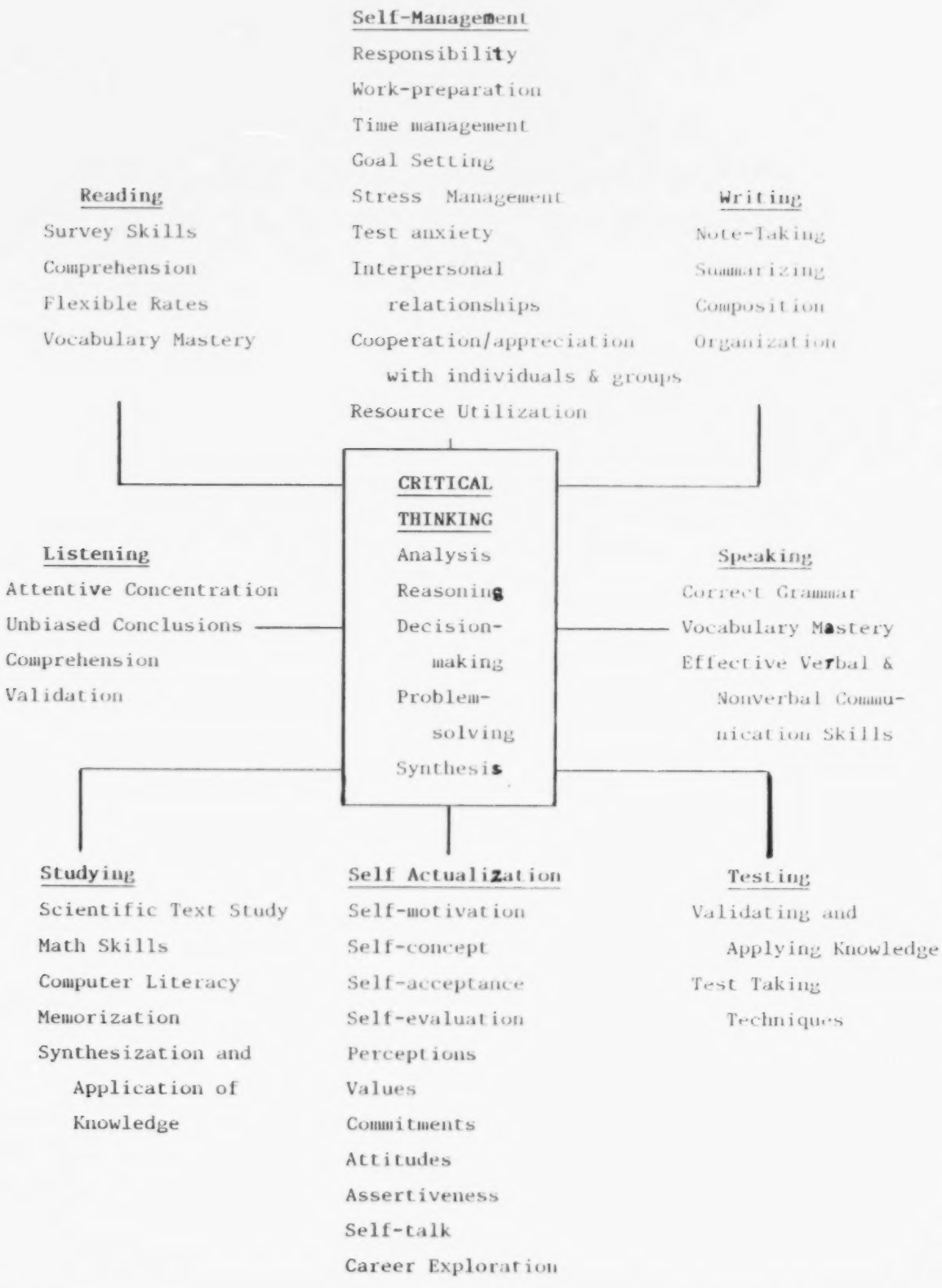
The three-credit course entitled, "Success In Nursing", is designed to develop the academic and social skills necessary for achievement in the nursing curriculum. Any entering student indicating interest in a nursing major may take the course. Those students who are unable to read at the twelfth grade level are required to enroll in the developmental course. "Success in Nursing", consists of two classroom lecture hours and two hours of group laboratory activity each week for one semester. Textbooks include, How to Study in College by Walter Pauk and a workbook designed specifically for the class, Study Skills Workbook for the College Nursing Student. 9

Lecture course content includes study skills instruction in all areas depicted in Figure #1. Concepts are introduced and practiced, with subsequent application encouraged in all courses. The related laboratory group content supports lecture topics.

Reading and comprehension skills are introduced first. Utilizing nursing texts, journal articles, and the course workbook, students learn to delineate main ideas from supporting detail, check comprehension, expand vocabulary and vary their reading rate. Exercises in effective listening and notetaking prepare students to apply the skills in all classes.

FIGURE 1

CONCEPTS AND SKILLS TAUGHT IN "SUCCESS IN NURSING" COURSE



Mathematic competency, necessary for drug dosage calculation, is determined by a GAIN-developed math pre-test administered at the beginning of the semester. Test items are coded to reveal specific deficits. Math tracks of take-home exercises are assigned each student to meet their particular need.

Computer assisted instruction is introduced in the classroom followed by computer assignments completed individually in a learning resource laboratory. Software assignments include general and nursing vocabulary, a study skills inventory, a self-concept inventory, and tutorial math programs.

An essential aspect of academic success and adjustment to college life is utilization of campus resources. Students are given tours of the university library and the nursing learning resource center followed by exercises designed to familiarize them with the kinds of information to be found in each facility. A section on interpersonal relations and communication skills prepares students to visit additional resources and share that information with their peers.

Methods of studying texts, improving memory, and test-taking are first introduced in the classroom, then reinforced by homework assignments of a similar type. As noted by other authors, small study and shared learning groups are successfully used to enhance students' abilities to work with faculty and peers. 10 Critical thinking concepts are introduced to the "Success in Nursing" students by way of an interactive experience with senior students from the College of Education. The experience is one consisting of a progression of

guided critical thinking skills which culminates in writing a précis of a scientific article and a short term paper.

Maturity and self-management are expected of students in the traditional classroom setting and are an absolute necessity for nursing students in the clinical area. The lack of these self-skills frequently overshadows even the most worthwhile efforts to become a better student.[11] The group laboratory experience affords each nursing student the opportunity for personal growth by focusing on self-skills. The skills are divided into two areas, self-management and self-actualization (see Figure 1). This plethora of self-skills interlocks with study skills giving students an opportunity to connect lecture knowledge with personal growth.

The group laboratory utilizes a seminar format to emphasize the importance of productive classroom participation rather than grades. Through innovative teaching methodologies, the concept of internal locus of control is introduced to students. Research studies have shown that high internal control is a fairly reliable predictor of student success.[12,13,14] As students assume more responsibility for their learning, they become aware of the correlation between their behavior and the resulting consequences. The opportunity for self-examination promotes self-responsibility, heightens self-acceptance and enhances internally controlled thinking.

METHOD OF MEASUREMENT

The sample consisted of 62 students enrolled in the "Success in Nursing" course during the fall and spring semester 1987-1988.

To indicate what, if any change occurred during the course, a battery of four tests were administered the first and last weeks of each semester. The pre and post measurements were determined by the Nelson-Denny Reading Comprehension Test, a Mathematics Skills Examination, a Locus of Control Scale and Self-Acceptance Scale.

INSTRUMENTS

The widely used Nelson-Denny Reading Comprehension Test-Form E is a nationally published instrument. It was selected due to its appropriateness for the college population under study. Publishers of the Nelson-Denny Test report reliability values of 0.91 and validity coefficients of .29 when used with freshman college students. 15

The Berger Self-Acceptance Scale is a 36-item inventory that indexes the degree of self-acceptance held by the respondent. The Berger scale was selected in part due to the relative ease of administration and scoring. Although validity and reliability scores are not available, the scale is in frequent use today in psychological research and clinical work. Low scores (0-110) express very little self-acceptance; average scores (111-150) vary according to their role; high scores (151-180) indicate that respondents consider themselves confident and worthy. 16

The Nowicki Locus of Control Scale represents a measure that can indicate the extent to which the respondents attribute events and circumstances affecting their lives to either internal or external factors. The constructors of the test offer a theory of development that suggests that more internalized attribution is associated with more mature personalities. The test authors also suggest that the

internality-externality dimension can be profitably modified through intervention. When used with college students, the Nowicki scale has reported reliability coefficients of .83 and validity coefficients of .68. 17

The fourth scale employed in the study is a locally constructed measure of mathematical achievement. The instrument was developed by GAIN faculty in consultation with nursing pharmacology faculty. The instrument is comprised of 20 items covering such math topics as fractions and decimals. Internal consistency reliability was estimated using Kuder Richardson 21' and was found to be .75. The validity of the math achievement scale was established through a comparison of test items to objectives of remedial mathematics courses.

RESULTS

In order to determine the extent to which instructional intervention during the semester may have impacted the students' academic and self skills, dependent measure t-tests were computed for each of the four measures, using the pre and post measurements. Table I summarizes the findings. In the case of each of the four measures, statistically significant changes in the expected direction were observed.

To examine the pattern of change (increase or loss) for each student on each measure, Table II reports the numbers of students for each scale, experiencing a good deal of improvement (change in the predicted direction), some improvement, no improvement, some loss and a large loss.

TABLE I

MEANS AND STANDARD DEVIATIONS OF GAIN OR LOSS SCORES

TEST	INCREASE OR LOSS MEANS	SD	t	p
NELSON-DENNY FORM E - TOTALS	1.058	1.67	4.149	$<.001$
MATH TEST	12.58	14.45	6.85	$<.001$
SELF-ACCEPTANCE	8.754	15.64	4.075	$<.001$
*LOCUS OF CONTROL	-1.906	3.133	-4.43	$<.001$

*Negative results indicate increase in internal contol.

Positive results indicate increase in external control.

TABLE II

CHANGE IN STUDENT SCORES

	STRONG INCREASE	SOME INCREASE	NO INCREASE	SOME LOSS	STRONG LOSS
NELSON-DENNEY (n=53)	13	15	2*	11	1
MATH ACHIEVEMENT (n=62)	21	24	9**	7	0
LOCUS OF CONTROL (n=53)	16	21	7	6	3
SELF-ACCEPTANCE (n=53)	13	22	4	10	2

RESULTS: a strong improvement on N-D = 2GE (grade equivalents)
a strong improvement on MA = 4 pts (raw score)
a strong improvement on L of C = 4 pts
a strong improvement on SA = 20 pts

*One of these two had a grade equivalent of 16.9, representing the ceiling of the test.

**One of these nine had 100% on the pretest, 2 others had scores in the 90's.

In the case of each measure, it can be seen that a majority of students experienced some improvement, Some of the instances of "no increase" or "some loss" were the result of a "ceiling effect" wherein the student had a pretest score at or very near the maximum possible score on that measure.

SUMMARY AND DISCUSSION

To test the effectiveness of the early intervention course, "Success in Nursing", pre and post measurements in four areas were taken. Two measurements of change were academic measures, The Nelson-Denny Reading Test and a locally developed test of mathematical achievement. The average increases experienced on these measures were found to be statistically significant, and most students showed some improvement on each measure. The other two measures used to indicate improvement in self-skills were the Nowicki Locus of Control Scale and the Berger Self-Acceptance Scale. It was hoped that one consequence of the intervention would be a greater degree of internalization of locus of control (student attributing more of his or her success or failure to factors he or she directly controls) along with a more positive degree of self-acceptance. Again comparisons of pre and post measures reveal statistically significant changes in the directions expected.

In interpreting these findings, an important point to be made is that the design of this study did not permit the use of a control group. Therefore, it is not possible to say to what extent the positive changes exhibited by these students were due entirely to the intervention. It can be accurately stated though, that the development of the intervention

course was initiated due to the recognition that academically "at risk" students would not be expected to succeed in a nursing program. Reasoning from this point, any statistically and/or practically significant change could be attributable to the intervention. More pragmatically, it is safer to say that the early intervention course, "Success in Nursing" seems to be associated with improved academic indicators, improved personalized indicators, and a degree of retention that was not expected with "at risk" students. Ongoing future studies incorporating control groups will afford more specific answers to the question of the long-term specific impact of the early intervention course and its' contribution to students' "Success in Nursing".

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